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The Occupational Level Scale as a Measure of Drive

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PREFACE

What is the meaning of occupational level as measured by interest tests? Is having interests like those of executives a sign of motivation to strive to rise to high position? Or is occupational interest level simply an index of similarity of interests to those of men at various occupational levels, devoid of dynamics and unrelated to drive?

It is these questions which we have sought to answer in the studies and in the final synthesizing essay which constitute this monograph. Barnett and Handelsman were stimulated to test the validity of common interpretations of the Occupational (Interest) Level scale of Strong's Vocational Interest Blank; Stewart was moved, by the lack of such research, to look into the nature of the relationship between adolescent experiences and interests; and the writer had the pleasure of helping Barnett, Handelsman, and Stewart see their independently conceived studies in relation to each other and to organize their results into one systematic report. We are indebted to Drs. Herbert S. Conrad and Edward K. Strong, Jr., for their help and suggestions with the manuscript; the interpretations are our own.

The results should be helpful to vocational counselors and personnel workers using tests in counseling and selection. They should be of value to students of developmental psychology and of motivation. They should stimulate further research in an important area of theory and practice.

Teachers College, Columbia University
January, 1951

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THE OCCUPATIONAL LEVEL SCALE AS A MEASURE OF DRIVE

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CHAPTER I

INTRODUCTION

Level of Occupational Interests: Measure of Status or of Drive?

VOCATIONAL interest has often been conceived of by educators, social workers, and psychologists as more or less synonymous with drive, the underlying assumption apparently being that if an individual likes an activity he will seek to engage in it and apply himself to it with as much effectiveness as his ability level permits. When Strong's analysis of the relationship between occupational interests and socioeconomic level (49: Ch. 10) showed that occupational interests can be arranged in a hierarchy according to social level, just as occupations can be classified according to intelligence, it seemed to many that the equivalence of interest and drive had been demonstrated and, furthermore, that Strong's scale for measuring *occupational interest level* provided an instrument for the measurement of drive or aspiration level.

This scale has been the subject of a number of studies which are discussed below, and is used by many counselors working with Strong's Vocational Interest Blank. But the few published investigations of the meaning of the Occupational Level scale have not, as will shortly be made clear, shown to what extent level of vocational interest is a driving force which motivates the individual to strive to attain a status compatible with his level of interest, or simply a reflection of socioeconomic level. Is having interests like those of professional men an index of motivation to strive to rise to the higher socioeconomic level? Are adolescents with interests like those of business executives inclined to show, in their school activities and in their educational and vocational goals, patterns of behavior which can be interpreted as indications of a high aspiration level? Are men whose level of vocational interests is high likely to be dissatisfied with a low level of accomplishment, while those with

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low occupational interest levels are satisfied with unemployment, drifting, and dependency? Or is occupational interest level simply a measure of the extent to which an individual has, through cultural influences in or outside of the home, developed interest in objects and activities which happen to characterize one or another of the various socioeconomic levels? Is it possible, in other words, that there is no drive or motivating force inherent in level of vocational interest? These are important questions to the counselor and personnel worker.

The Occupational Level (OL) Scale

It has been demonstrated that occupations may be arranged in a hierarchy according to the average intelligence of the people engaged in them (47). Prior to the development of the OL scale it was not known whether there existed a similar rank order of occupations in terms of interests, and, provided there was, whether the two hierarchies were similar.

In order to investigate this problem, Strong constructed the OL scale, which contrasts the interests of semiskilled laborers with the interests of business and professional men who were earning approximately $2,500 and up annually during the depression of the 1930's. It was entirely possible that, while the unskilled group differed from the business and professional group in terms of intelligence, there might be men at every occupational level with a given type of interests, because they belonged in the same occupational field, such as semiskilled mechanics, machinists, and professional engineers. Differences between *levels* might reflect ability, whereas differences in interests might affect only *fields*. Instead, Strong found a definite progression in mean OL scores from unskilled to semiskilled to skilled workers, and from there upward to business executives and professional men. He concluded:

> Men cannot be assigned to a specific occupation on the basis of intelligence test scores. Neither can they be assigned to a specific occupation in terms of an OL score. In both cases there is far too great overlapping between occupations to make this possible. Nevertheless, such assignments can be made in a general way; men with high OL scores have the interests of business executives and professional men, but those with low scores have the interests of workmen (49, p. 195).

After extensive counseling experience with Strong's Blank, Darley drew the following conclusions concerning the meaning of the OL scale:

> Occupational level, a quantitative statement of the eventual adult "level of aspiration," represents the degree to which the individual's total background has prepared him to seek the prestige and discharge the social responsibilities growing out of high income, professional status, recognition, or leadership in the community; at the lower end of the scale the individual's background has prepared him for the anonymity, the mundane round of activities, and the "followership" status of a great majority of the population (17, p. 60).

Elsewhere Darley has concluded:

> I am becoming clinically more convinced . . . that the occupational level score is an excellent quantitative statement of a form of motivation or level of aspiration or some other dynamic aspect that is . . . referred to in the literature as "drive" (49, p. 465).

Studies of the Meaning of the OL Scale

There have been few attempts to investigate the factor or factors measured by the OL scale. Most of the present knowledge is based on Strong's data collected in the development of the scale. Other studies that have been made show little agreement with respect to findings. These are referred to when relevant in the final chapter of this monograph.

What Is the Significance of Occupational Interest Level?

The three chapters immediately following describe three studies, each of them designed to investigate the nature of the factors measured by the OL scale. While all three studies were carried out under the sponsorship of one person, each represents an independent and distinctive approach to validation of the OL scale. While there is enough agreement among the findings to make possible some definite conclusions, there are some discrepancies which still challenge the counselor and researcher. The final chapter considers the three studies, synthesizing the compatible conclusions of these and earlier investigations and attempting to ascertain logical grounds for the dissimilarities.

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CHAPTER II

LEVEL OF OCCUPATIONAL INTEREST AND SATISFACTION WITH CHRONIC VAGRANCY*

GORDON J. BARNETT

Problem and Method

IF IT were discovered that, of a group of subjects who had no jobs and had not had any job for much of their lives, those who were satisfied with being unemployed earned low OL (occupational level) scores and those who were dissatisfied earned high OL scores, and if it were further found that there existed a high negative relationship between intensity of satisfaction and OL scores, then it might be reasoned that OL scores do provide indices of people's levels of vocational aspiration. This procedure was employed, in a study of chronic vagrants, in an attempt to learn more about what is really measured by the OL scale.

Source of Data: Chronic Vagrants

From a group of 37,644 applicants for food and/or shelter at the Salvation Army Men's Social Service Center, located in the Hell's Kitchen district of New York City, 763 men were interviewed for biographical data and detailed occupational histories. Selection was made at the rate of approximately 1 applicant in 50, the refusal of 43 men to cooperate reducing the rate slightly below that figure. All veterans, the obviously physically and mentally incapacitated, and, in one subgroup studied, all men younger than 30, were excluded in order to eliminate those whose chronic unemployment might be considered justified and to derive a sample of real vagrants.

All the applicants who were selected for study were designated chronically or nonchronically unemployed, according to the following criterion. The total possible work life of each applicant was determined by means of detailed questioning. Total possible work life was considered to be the total time in months that had elapsed since the applicant had finished his formal education and left his home (or substitute therefor). An index of unemployment was computed for each applicant interviewed by dividing his total possible work life in months into total months unemployed. If an applicant had left school at the age of 14, his work life was considered to have begun at that time; if he had earned a master's degree, and had been steadily engaged in study up to the date the degree was granted, his work life was considered to have begun with the awarding of the degree. Work done during summer vacations while the individual was still technically a student was disregarded, regardless of whether he had then completed the sixth grade or had earned a graduate degree.

When the applicant's index of unemployment had been determined, he was classified as chronically or nonchronically unemployed according to whether his index was more or less than 51, i.e., whether he had been unemployed for more or less than half his possible work life, the former, of course, being the chronics. All chronics were instructed to

* Part of a Ph.D. investigation conducted at Teachers College, Columbia University, under the direction of Dr. Donald E. Super, Dr. Laurance Shaffer, Dr. Irving Lorge, and Dr. Robert L. Thorndike.

move to a small room adjoining the room in which they had been interviewed, where, under conditions more suitable for the administration of psychological tests, they were administered the measuring devices described after the personal history data in the following section.

Factors Investigated

As each man was interviewed, this information was elicited:

Age in months. A person's age provides an indication of his maturity and of the degree to which he has been exposed to his culture. Physiological and psychological changes occur with age which might be expected to modify one's attitudes. In the case of the men under investigation in this study, age might conceivably have either of two diametrically opposite effects on attitude toward chronic unemployment. First, older men might be discovered to be generally more satisfied than the younger men as the result of having become more or less inured to unemployment and the hardships inherent in it, with the younger men not as yet accustomed to the rigors of such a life and thus generally less satisfied with it. Second, it might be found that the younger men are generally more satisfied, as a result of not yet having come to grips with the multitude of problems that face anyone who is unwilling to work in our society, with the older men more disillusioned, more bitter, about such an unproductive and unrewarding existence, and hence generally less satisfied with it. While the stereotype is one of the conservative old man and the radical young man, still it is not inconceivable that this latter relationship might be found to exist. Therefore, as closely as was possible with a group of this type, each applicant's age was determined.

Educational level. While there is great variation in the amount of learning by individuals during a given period of schooling, the level of education attained does provide some evidence of one's accomplishments. The relationship that seems most logical appears to be one in which the better educated are more dissatisfied with the life of a vagrant. Experience at the Center had indicated no such general relationship, however, the better educated applicants frequently expressing satisfaction with their way of life, while poorly educated applicants expressed dissatisfaction at times. In order to check more thoroughly on this factor, education in months, represented by the highest grade reached, was ascertained.

Father's occupation. Occupation is one index of the degree of success attained in the working world. In this country, at least, occupation represents a widely accepted criterion of success. The occupations of the applicants' fathers (major occupations in the cases of fathers who had held more than one type of job) were used as an index of parental socioeconomic status in this study. It could be expected that applicants from "better homes" in terms of their fathers' occupations would be less satisfied with the life of the vagrant than those from homes in which the nominal head of the family had never risen above the level of the majority of people about him. In view of the frequent discrepant relationships discussed above, however, father's occupation was included for study.

Following the direct questioning, each man who met the above-mentioned criteria for designation as a "chronic" vagrant was administered the written test materials, which covered these areas:

Intelligence. Scores on verbal intelligence tests provide reasonably valid indicators of capacity for abstract thought. Level of intelligence may be expected to influence attitudes; in the case of attitude toward being chronically unemployed it would seem that the most logical relationship would be one in which the more intelligent men are least satisfied, while the less intelligent are most satisfied. However, experience with applicants at the Social Service Center had demonstrated that the expected relationships did not hold here any more consistently than in the case of age, education, or father's occupation. Frequently men of obviously modest intelligence were loudest in their denunciation of their way of life, while an occasional college graduate, perhaps a vagrant since shortly after his graduation from college, might profess to love his way of life and to harbor not the slightest desire to change it. This impressionistic evidence of a discrepant relationship between intelligence and satisfaction with unemployment had the disadvantage of being based solely on observation of the men's behavior and on their orally expressed statements of satisfaction and dissatisfaction. Consequently this study investigated intellectual functioning by means of a standardized intelligence test and satisfaction by means of the Satisfaction Scale described below.

The intelligence test used was the Otis Self-Administering Test of Mental Ability, Higher Form D. This test consists of 75 items, requiring a certain amount of verbal facility and ability to see logical relationships.

The Higher Form of the Otis is intended for high-school students and college freshmen.

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It was originally planned to use the Intermediate Form, designed for grades 4 to 9, in this study. However, in a previous study the educational levels of applicants at the Center suggested using the Higher Form, the mean grade completed being slightly above the tenth grade.

Interests. The Strong Blank was completed according to the instructions printed on the blank. The time required for completion of the 400 items ran from 15 minutes to about one hour, with a mean of approximately 25 minutes. A pilot study attempted to determine whether difficulty in comprehension would be presented by certain items. No such difficulties were encountered in 20 cases so studied, the men apparently understanding names and terms used as well as might be expected of a group of this educational level.

Satisfaction. The most important single factor subjected to investigation in this study was the relative satisfaction or dissatisfaction of the applicant with his vagrancy. The most promising method of determining this relative satisfaction or dissatisfaction appeared to be by means of a series of scaled responses, ranging from those indicative of utter dissatisfaction to those signifying complete satisfaction. No such scale existed, and while it would have been possible to construct one, the labor involved appeared to be disproportionate to any advantages such a scale might offer.

A more practical approach suggested itself in the form of Hoppock's Job Satisfaction Blank (31). This blank has been widely used and has been proved to be of value in the determination of job satisfaction or dissatisfaction. It consists of four scales, made up of from six to ten items, the responses to which are totaled in order to obtain a composite index of satisfaction. In this manner it is possible to express the degree of satisfaction or dissatisfaction in quantitative terms.

This blank was reworded to be pertinent to "having-no-job" satisfaction instead of to job satisfaction, retaining the original format and altering the wording only to the extent required to make the items germane to unemployment (Appendix A). Use of a technique such as this implies two assumptions, first, that the items within any one scale are equidistant, and second, that the four scales are equally important and equally valid. These conditions are but partially met in any revision. This is why extreme groups of scores on the revised satisfaction blank were selected for comparative study. In order to allow for a tendency to mark the first responses that expressed approximately how the applicant felt, the responses indicating satisfaction were placed first in two of the scales and last in the other two.

The Nonchronic Test Group

For each applicant who was found to be a "chronic" and was tested, a "nonchronic" was administered the same battery of tests. The first nonchronic who appeared each time a chronic was located among the incoming population was selected for testing. A total of 175 nonchronics completed the battery, against a total of 174 chronics. For reasons not satisfactorily explainable, since the task involved in the intelligence test was presented to them in the same manner, none of the nonchronics was unwilling to complete the Otis, whereas 23 chronics refused to do so.

Treatment of the Data

Otis tests were hand scored according to the instructions in the test manual. Total score, the number of correct answers, was checked twice in order to insure that no computational errors had been made.

The Strong Blanks were hand scored, rescored by a second person, and in the case of a discrepancy between first and second scoring were scored a third time. The final score represented a compromise between the third score and the one closest to it when there was not perfect agreement with one of the other two. All the Strong data were treated in raw score form.

Responses to the Satisfaction Blanks were tallied and a composite "index of satisfaction" was obtained. The item responses indicating the greatest degree of dissatisfaction were assigned a weight of 1. The others were given values in order, from 2 to n, the latter representing the total possible number of items in a particular scale. It was then possible to obtain a scale value in terms of the standard deviation. Deviations in the direction of

dissatisfaction were given a minus weight. Those in the direction of satisfaction were assigned a plus weight. In this manner it was possible to reduce the scores on each of the four scales to comparable units, and the scale values of the items checked were added to obtain the index of satisfaction.

Fathers' occupations were quantified by means of the Barr Occupational Scale. This scale was originally employed by Barr and Terman (3) in studies of gifted children, and has been widely used since 1925. It assigns numerical scores to well-known occupations, leaving adequate space between the scores for the interpolation of other occupations not mentioned in the scale. In the case of occupations not specifically mentioned in the Barr Scale, a panel of five psychologists, all with special knowledge of occupational requirements, arrived at a Barr score for each occupation, based upon estimates of the level of intelligence required for placement in the occupation. For the not-so-well-known occupations, reference was made to printed job descriptions, to occupational monographs, and to the Dictionary of Occupational Titles (57).

Personal Data

Chronics. Barr Scale scores of the fathers of the chronic group ranged from 3.62 (laborer) to 18.10 (president, insurance company). The mean score fell approximately one-half the distance between the occupations of potter and tailor. Seven of the applicants were unable to specify what their fathers' occupations were. None of these seven had any idea who his father was.

The mean age of the men in the chronic group was 46.97 years. Most studies have found the mean age of vagrants to be in the vicinity of 20 years, with a steady decrease in the proportion of older men. The four applicants who were under 30 were excluded from this group. The total range of ages was from 31.33 to 66.50 years.

Most surprising was the high average educational level claimed. Previous investigators have noted a tendency for vagrants to exaggerate their past accomplishments, including their education. A comparison of the statements of these vagrants with those made in other studies reveals, however, that whereas the latter groups usually averaged five or six years of school, the chronics in this study claimed a mean level approximating the tenth grade. There is no obvious reason why these men would have exaggerated their educational accomplishments any more than previous groups studied. It therefore seems reasonable to infer that these subjects had a higher average level of education than other groups studied. This may well be in part a reflection of the general increase in education (two grades) in the adult population in this country during the interim between World Wars I and II. The range of claimed education in the chronic group was from the fourth grade to the Ph.D. degree. The latter claim was investigated and verified.

Indices of unemployment ranged from 51 to 95, indicative of unemployment from one-half to more than nine-tenths of total working life. (The criterion for designation "chronic" was a history of having been unemployed during more than one-half of one's total possible working life.) As no applicant earned an index of 100, it is apparent that even the "most-chronic" of the chronics claimed some employment. Only two chronics earned an unemployment index greater than 86.

Nonchronics. Fathers' occupations in the nonchronic group ranged from laborer to lawyer. As in the case of some chronics, some (25) of the nonchronics were unable to specify the occupations of their fathers for similar reasons. Mean Barr score of the fathers of the nonchronics was 8.05, equivalent to the occupation of carpenter.

Because men younger than 30 were not excluded from the nonchronic groups, the range of age was greater, from 21.25 to 67.18 years. Mean age was 45. The upper extremes of the chronic and nonchronic groups were approximately equal, and in the two groups the percentage of men older than 50 was about the same, 32 and 37 per cent, respectively.

Again, as in the chronic group, the men claimed a surprisingly high educational level. The average nonchronic claimed to have completed approximately ten years of school. The total range of grades was somewhat greater in this group, from no formal education (claimed by four men) to the M.A. degree (one man).

Indices of unemployment in the nonchronic group ranged from 1 to 50, with a mean of

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33.94. This is indicative of a history of almost no unemployment during total possible working life to a history of having been unemployed during exactly one-half of one's working life, as nearly as could be determined. Eighty-three per cent of this group earned indices between 25 and 50, indicating that even among the nonchronics there were few who had histories of reasonably steady employment.

Test Data

Chronics. The chronics' mean Otis raw score was 44.44, the equivalent of an IQ of 102, a percentile rank of 55, and a classification of "normal" according to Otis norms. Raw scores ranged from 23 to 72, representative of IQ's from 81 to 130 and of classifications from "dull" to "superior." These intelligence test results served at least in part as a check on the veracity of the statements of the applicants concerning their educational and socioeconomic backgrounds. It would appear highly doubtful that the mean score of 44 could be earned by any group without its constituents' possessing the intellectual ability that such a score implies. When it is borne in mind that the Otis was designed for and standardized upon high-school students and college freshmen, it becomes apparent that the applicants not only averaged surprisingly high on the test, but actually exceeded the mean scores of a group having a distinct advantage with respect to age.

Indices of satisfaction ranged from —6.48 to 8.93, the former indicating that all four extreme statements in the direction of dissatisfaction were checked, the latter indicating that all the extreme statements in the direction of satisfaction were marked. The mean score of .063 indicates that so far as the Blank can disclose, the chronic group tended to be neither markedly satisfied nor strongly dissatisfied, although 8 men of the 174 indicated complete satisfaction as measured by the Blank.

OL scores ranged from —129 to 206, with a mean raw score of —.158, and a standard deviation of 55.02. Strong's one thousand men ranged from —200 to 240, with a mean raw score of 18.1 and a standard deviation of 73.62 (49, p. 189). Thus, the chronics averaged about 18 raw score points below Strong's criterion group. Strong (49, p. 291) reports that 62 unemployed men in the Palo Alto shelter earned a mean OL score of approximately zero, comparable to the mean score of the chronic group.

Nonchronics. The nonchronics earned a mean raw score of 46.44 on the Otis. The scores ranged from 17 to 73, a range slightly greater than that observed in the chronic group. Their mean score is equivalent to an IQ of 104, a percentile rank of 63, and a classification of "normal." The standard deviation of the Otis raw scores is 10.39.

Owing to a misinterpretation of Otis' instructions by one of the two persons responsible for the administration of the Otis tests, the chronics were not limited to a 30-minute time limit as the nonchronics were. The estimated mean time required by the former was between 25 and 40 minutes. Consequently, direct comparison of intelligence test scores of the two groups is misleading. Nevertheless, the close equivalency in mean scores and in range and standard deviation suggests that under more closely equated conditions little difference would be found between them.

Indices of satisfaction ranged from —6.48 to 8.93, there having been one man who expressed complete satisfaction and ten who indicated complete dissatisfaction. The mean index of —.554 indicates, as in the case of the chronic group, that the average nonchronic was neither strongly satisfied nor dissatisfied with his vagrancy, tending to be relatively indifferent in terms of the Satisfaction Blank.

The nonchronics showed a slightly narrower range of OL scores, the extremes being —135 and 181. The mean raw score was 28.44, approximately equivalent to the occupation of printer, and fell about ten raw score points above the mean of Strong's criterion group.

Results

Table 1 and 2 present the intercorrelations of all factors in the chronic and nonchronic groups, respectively.

Chronics and Nonchronics

Chronics. It will be recalled that a negative relationship between OL and degree of satisfaction with vagrancy was hypothesized, providing the OL score is related to motivational and/or aspirational factors. This hypothesis was supported in the chronic group by our finding a product-moment correlation of —.73 between OL and index of satisfaction. In order to investigate the influence of the other factors included for study, i.e., education, intelligence, age, father's occupation, and index of unemployment, first-order correlations were computed for OL and index of satisfaction, holding the other factors constant. These partial cor-

TABLE I

INTERCORRELATIONS OF ALL FACTORS: CHRONICS

	N	2	3	4	5	6	7
(1) Occupational Level	174	−.73*	.14	−.06	.19†	−.10	.28*
(2) Index of Satisfaction	174		−.19*	.05	−.26*	.12	−.23*
(3) Father's Occupation	167			−.12	.30*	−.14	.59*
(4) Age	174				.10	−.09	−.22*
(5) Education	174					−.14	.49*
(6) Index of Unemployment	174						−.06
(7) Intelligence	151						

* Significant at 1% level.
† Significant at 5% level.

relations indicated that the other factors exerted little influence on the zero order correlation of −.73, the greatest divergence being observed in the case of intelligence, which, when held constant, resulted in a first-order correlation of −.78.

OL and age were found to correlate −.06, a figure that is statistically insignificant. Strong (49, p. 189) presents conflicting information concerning his findings with respect to OL and age. For his one thousand men in general, Strong found a slight increase in OL with increasing age, but no change in follow-up data on high-school juniors. He concluded that an increase of from two to three OL standard score points might occur with increasing age, but that age affects OL very little.

Claimed education and OL correlated .19 in the chronic group and −.19 in the nonchronic group. These correlations are significant at the .05 level. The reason for the discrepancy is not apparent. Strong does not present data concerning the relationship between education and OL. Indirectly he makes reference to it in his discussion of the relationship between age and OL, for in his younger groups there was, of course, a direct relationship between age and grade in school.

The relationships between index of satisfaction and other factors were generally as expected. Correlations of −.19, −.26, and −.23, all significant at the .01 level, were found between satisfaction on the one hand and father's occupation, claimed education, and intelligence on the other. Thus, chronics claiming higher fathers' occupations tended to express greater dissatisfaction with unemployment. Similarly, the more intelligent men and those claiming higher educational attainments were less satisfied with unem-

TABLE 2

INTERCORRELATIONS OF ALL FACTORS: NONCHRONICS

	N	2	3	4	5	6	7
(1) Occupational Level	175	−.68*	−.24*	−.30	−.19†	−.39*	−.24*
(2) Index of Satisfaction	175		−.41*	.07	−.20*	.46*	−.17†
(3) Father's Occupation	564			−.09†	.26*	−.10*	.65*
(4) Age	589				−.14*	−.07	−.31*
(5) Education	589					.10	.44
(6) Index of Unemployment	589						−.02
(7) Intelligence	175						

* Significant at 1% level.
† Significant at 5% level.

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ployment than the less intelligent and not-so-well educated.

Strong (49, p. 201) reports a correlation of .05 between OL and intelligence as measured by the Thorndike Intelligence Examination for High School Graduates. The correlation of .28 between OL and Otis scores in the chronic group indicates a closer positive relationship. Claims concerning educational accomplishments and fathers' occupations received some support from correlations of .59 and .49 between these two factors and intelligence in the chronic groups, and of .44 and .65 in the nonchronic groups.

Nonchronics. The correlation between OL and index of satisfaction in the nonchronic group was −.68. Partial correlations were computed, as was done in the case of the chronics. Again, the other factors were shown to be contributing little to the observed correlation, the greatest divergence being noticed when index of unemployment was held constant, resulting in a correlation of −.62 between OL and satisfaction.

OL and age correlated −.30 in the nonchronic group, significant at the .01 level. In view of Strong's conclusion that age has little effect on OL and our having found a correlation of −.06, not signigficant at the .05 level, in the chronic group, this figure poses a problem concerning the relationship between OL and age. What changes Strong did note in connection with OL and increasing age were in an upward direction, while our negative correlation would indicate that the older nonchronics tended to earn *lower* OL scores.

The implication would seem to be that at least some of the nonchronics were individuals who were still trying to obtain employment, but as they grew older the level of their ambitions fell lower and lower. The chronics, on the other hand, were largely individuals who had renounced any claim to, or interest in, employment. Thus, the passing years had not resulted in their lowering their vocational ambitions. Strong's finding of a slight increase in OL with advancing age was based on average people who were presumably fairly well adjusted to their work; thus their aspirations tended to go up rather than down.

A correlation of −.30 was found between OL and father's occupation in the nonchronic group. This correlation is significant at the .01 level, contrasted with the statistically insignificant correlation of .14 in the chronic group. The negative correlation suggests a partial answer to the question of why these men became vagrants. The men claiming higher fathers' occupations should be expected to earn higher OL scores, there being a positive relationship between OL and intelligence, and between father's occupation and intelligence. The negative correlation suggests that while the men from the relatively better homes suggested by the higher fathers' occupations did tend to be more intelligent than men claiming lower fathers' occupations, they were, nevertheless, handicapped to a certain extent by having interests not commensurate with their socioeconomic levels. This may explain their having failed to become useful members of society, the factor or factors implied by a low OL score having operated in their becoming vocationally and socially maladjusted.

Satisfied Versus Dissatisfied

In order to point up the relationships among the factors studied, the chronic and the nonchronic groups were both divided into "Satisfied" and "Dissatisfied" subgroups. This was done by des-

ignating those whose satisfaction indices fell above the third quartile of each distribution as "satisfied" and those whose indices fell below the first quartile as "dissatisfied." The score limits in the chronic group were 2.00 and above for the satisfied and −2.42 for the dissatisfied. Similar critical scores in the nonchronic group were 1.70 and −2.91.

The critical ratio was employed to test the significance of the differences between various scores of the chronics and nonchronics, as well as between scores of the satisfied and dissatisfied subgroups. Two factors differentiated the chronics from the nonchronics at the .01 level. The latter earned significantly higher OL scores and had higher fathers' occupations. None of the other factors, i.e., age, claimed education, intelligence, or index of satisfaction, differentiated between the chronics and the nonchronics.

The same two factors, OL and father's occupation, showed differences significant at the .01 level between the satisfied and dissatisfied nonchronics. The satisfied and dissatisfied chronics differed significantly with respect to OL and claimed education. Using the quartile extremes, as described above, did not demonstrate significant differences in claimed fathers' occupations in the chronic group.

Applying more stringent criteria for designation as satisfied and dissatisfied, all the distributions of satisfaction indices were recalculated, using the upper and lower deciles instead of quartiles. With this new criterion in effect one change was observed: fathers' occupations claimed by the satisfied and dissatisfied chronics now differed at the .01 level of confidence.

Thus two factors, *father's occupation* and *OL score,* differentiated not only between the chronics and nonchronics but also between satisfied and dissatisfied members of both groups. In only one instance, that of the satisfied and dissatisfied chronics, did another factor (claimed education) differentiate significantly between these paired groups. None of the other factors approached the level of significance observed in the case of OL and father's occupation.

While these two factors differentiated significantly between the dichotomies established, the sizes of the correlations between them in the chronic and nonchronic groups, .14 and −.24 respectively, ruled out any assumption that one could predict the occupation of a vagrant's father from a knowledge of his OL score. It follows that the factors represented by fathers' occupations, particularly socioeconomic background, and by the OL scale, exerted separate, albeit similar, influences on the men studied. Not only could the chronic vagrants be distinguished from the nonchronics on the basis of father's occupation and OL score, but within these two groups the satisfied and the dissatisfied could also be isolated.

Conclusions

Negative correlations of −.73 and −.68 were found between OL score and index of satisfaction with unemployment in the chronic and nonchronic groups respectively. This might lead one to accept the hypothesis that the OL score provides a measure of level of aspiration, at least vocationally speaking. As OL scores increased in magnitude, expressed satisfaction with vagrancy declined.

However, another factor, father's occupation, also was negatively correlated with satisfaction with unemployment and differentiated between the satisfied and dissatisfied men in both the chronic

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(−.19) and nonchronic groups (−.41) as well as between the groups themselves. The subjects' expressed dissatisfaction with unemployment should not, therefore, be viewed in terms of high OL scores alone. Nor could the nonchronics be distinguished from the chronics solely on the basis of their OL scores. In each case, father's occupation also entered the relationship. Furthermore, OL scores and fathers' occupations were not significantly correlated, thus ruling out the possibility of equivalency of OL score and father's occupation. In fact, in the nonchronic group OL scores and fathers' occupations were significantly *negatively* correlated. This suggests that possession of a level of occupational interest not commensurate with original socioeconomic level may be responsible in part for social and vocational maladjustment.

These data cannot be said to have demonstrated that the OL scale measures drive. They have shown that it is related to status satisfaction, and that it is not simply a measure of parental socioeconomic level. While it apparently operates in the same way as the latter, it is independent of it. Perhaps the OL scale measures just what its method of construction suggests: the occupational level to which the individual's interests correspond. The scale might therefore be of use in a guidance or selection battery as an index of the occupational and/or social level which the individual is likely to find congenial. It is, in a sense, a measure of satisfaction or dissatisfaction with a way of life. If it is also a measure of drive, this remains to be demonstrated.

Chapter III

THE RELATIONSHIP BETWEEN OCCUPATIONAL LEVEL (OL) SCORES AND VARIOUS MEASURES OF ASPIRATION AND ACHIEVEMENT*

Irving Handelsman

In the present experiment, the OL score (Strong's Vocational Interest Blank), laboratory tests of level of aspiration, and teachers' ratings and students' self-ratings of level of aspiration are used as measures of level of aspiration. The extent of student participation in extracurricular activity and three-year high-school grade averages are used as measures of achievement which should, on a priori grounds, be affected by aspirational level.

The OL scores may be hypothesized as reflecting the individual's socioeconomic goals in life. The teachers' ratings and the students' self-ratings of level of aspiration are considered to be indices of the manifest motivation and striving of the student. The extent of student participation in extracurricular activity and high-school grades are believed to depend, in part, upon the student's general level of aspiration in his daily living, and are behavorial in nature. On the other hand, it is believed that the laboratory tests of level of aspiration are more specific and less related to life situations, and measure the individual's aspirational level in tasks of limited significance. There is a dichotomy in these measures of level of aspiration, with one group representing life situations in the broad sense whereas the other group is unrealistic and narrow in scope.

* Part of an Ed.D. investigation conducted at Teachers College, Columbia University, under the direction of Dr. Donald E. Super, Dr. Laurance F. Shaffer, Dr. Nicholas Hobbs, and Dr. Irving Lorge.

Problem and Method

The present study proposed to determine to what extent the above-mentioned, presumed measures of level of aspiration are related to each other as well as to other selected factors. The aspect of the problem reported here is to determine the degree of relationship between the OL score of the Strong Vocational Interest Blank and various other presumed measures of level of aspiration, such as teachers' ratings of students' level of aspiration, students' self-ratings of level of aspiration, and two laboratory tests of level of aspiration. Secondly, an attempt is made to ascertain whether any relationship exists between the OL scores and scholastic and extracurricular achievement. The third part of the study, not reported here, was concerned with an investigation of the nature and meaning of two laboratory tests of the level of aspiration.

Design of the Study

Sample. The experimental group consisted of 132 white male students who were members of the junior and senior classes of two high schools in a suburban community located about 30 miles from New York City. The schools are referred to as "School A" and "School B." Sixty-four subjects participated in this study from School A, while 68 students participated from School B. The average age of the students from School A is seventeen years and nine months (*SD* 9.0 months) while the average age of the students from School B is seventeen years

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and ten months (*SD* 8.8. months). The average IQ, derived from the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A, is 105.7 (*SD* 10.8) in School A and 107.6 (*SD* 10.1) in School B.

The laboratory tests of level of aspiration. The two laboratory tests used for measuring the level of aspiration were designed by the writer. The verbal test consisted of paragraphs in which the subjects were asked to read the material and to put a line through all the written words which were numbers. The arithmetical tasks involved the computation of simple three-digit, three-row problems in addition. Copies of the instructions and the tests are contained in the original manuscript (27).

The range of intercorrelations of the five performance trials of the arithmetic level of aspiration test is from .53 to .83 with a median coefficient of correlation of .68 in School A, while the range of intercorrelations is from .76 to .88 with a median coefficient of correlation of .84 in School B.

The rating scales of level of aspiration. Two five-point rating scales of level of aspiration were designed (Appendices B and C). The scales were identical, except that the teacher rating scale was descriptive of the students' drives and was written in the third person whereas the students' self-rating scale was written in the first person. The descriptions ranged from ". . . sets no goals . . ." to ". . . sets high goals. . . ."

Procedure

The intelligence quotient. The IQ equivalent was obtained as recommended by the manual from the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A, which is administered routinely by the respective schools to their students.

The OL score. The Strong Vocational Interest Blank was administered to the subjects by the experimenter and scored by machine.

The level of aspiration scores. The level of aspiration was obtained for each test by finding the mean differences between the performance scores and aspiration scores for the five trials. The average level of aspiration score was computed by taking the mean of the verbal and arithmetical aspiration scores. Since the students were asked to count the number of problems they had completed and record them, a check was made to ascertain the degree of accuracy with which the students scored themselves. A check of the ten trials for the 132 students revealed that 6 erred, once each, in recording the proper score. Three students underestimated their scores by one, and 3 overestimated their scores by one. It appears that these errors were unintentional and that the differences are probably due to chance errors.

Instructions for student and teacher ratings. In each school the teachers who were assigned to rate the students participating in the study met with the experimenter and were instructed to "check the item which most appropriately describes the level of aspiration or drive of the student in his everyday life." A discussion followed the instructions, and it appeared that there was a common understanding as to the meaning of the terms.

The students participating in the experiment were instructed to "check the item which you feel most appropriately describes you in your everyday life." A few questions were raised by the students, but there seemed to be a general understanding of the terms.

Academic achievement. Academic achievement was determined from the school grade averages. Six semesters of work were used for the junior classes, and seven semesters in the case of the seniors. The percentage method of grading students is employed in both schools.

The Extracurricular Activity Index. The Extracurricular Activity Index was obtained by asking the students to fill out a form on which they recorded the names of any school organization, club, or team to which they belonged. In addition, they were told to indicate the number of terms they were members and the number of terms they held office. One point was given for membership and an additional point for each term that an office was held. The sum total of points yielded the Extracurricular Activity Index.

Results

Since the study was conducted in two different schools, the null hypothesis is set up in the case of each variable for each school. It is assumed that there is no real difference between the means of

TABLE 3

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS FOR EACH OF THE VARIABLES IN SCHOOL A ($N=64$)

Variable	1	2	3	4	5	6	7	8	9	10	Mean	Sigma
1. OL Score	—	.42*	.44*	−.004	.42*	.26†	.05	.17	.05	.25†	48.6	6.9
2. Three Year H.S. Average	.42†	—	.41*	.39*	.63*	.33*	.19	.20	.21	.65*	78.4	7.2
3. Student's Self-Rating of Level of Aspiration	.44†	.41*	—	.07	.41*	.32*	.14	.28†	.18	.33*	3.48	.85
4. Age‡	−.004	.39*	.07	—	.28†	−.02	−.05	−.04	.01	−.19	212.7	9.0
5. IQ	.42*	.63*	.41*	.28†	—	.11	−.001	.25†	.08	.46*	105.7	10.8
6. Extracurricular Activity Index	.26†	.33*	.32*	−.02	.11	—	.03	−.16	−.05	.35*	26.9	26.7
7. Verbal Level of Aspiration	.05	.19	.14	.05	−.001	.03	—	.35*	.94*	.30†	64.6	26.0
8. Arithmetic Level of Aspiration	.17	.20	.28†	−.04	.25†	−.16	.35*	—	.62*	.23	57.1	9.4
9. Average Level of Aspiration	.05	.21	.18	.01	.08	.05	.94*	.62*	—	.29*	61.6	14.8
10. Total Teachers' Ratings of Students Level of Aspiration	.25†	.65*	.33*	−.19	.46*	.35*	.30†	.23	.29†	—	8.7	3.4

* Significant at the .01 level of confidence.
† Significant at the .05 level of confidence.
‡ Age measured to nearest month.

the two populations, that any differences are nonsignificant and might easily arise from sampling fluctuations. The critical ratio is computed for each variable and the level of confidence selected for rejecting the null hypothesis is .01.

The two school groups are evenly matched as to OL scores, academic achievement (high-school average for three years of work), students' self-rating of level of aspiration, age, intelligence, discrepancy scores on the arithmetic and verbal laboratory tests of level of aspiration, and total teachers' ratings of students' level of aspiration. There is a significant difference in the extent of participation in extracurricular activity on the part of students in the two schools. Data are presented in Tables 3 and 4.

OL Score as Related to the Various Measures of Level of Aspiration

OL scores and teachers' ratings. The mean OL score for School A is 48.5 (*SD* 6.9) and for School B it is 48.8 (*SD* 6.8). The correlation coefficient between the

TABLE 4

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS FOR EACH OF THE VARIABLES IN SCHOOL B ($N=68$)

Variable	1	2	3	4	5	6	7	8	9	10	Mean	Sigma
1. OL Score	—	.30†	.04	−.15	.20	.03	.18	.06	.16	.24†	48.8	6.8
2. Three Year H.S. Average	.30†	—	.41*	−.21	.50*	.20	.11	−.02	.08	.71*	77.2	6.8
3. Student's Self-Rating of Level of Aspiration	.04	.41*	—	−.24†	.30†	.38*	−.04	−.05	−.05	.36*	3.2	1.1
4. Age‡	−.15	−.21	−.24†	—	−.46*	.02	.07	−.03	.04	.02	213.6	8.8
5. IQ	.20	.50*	.30†	−.46*	—	.22	.31*	.19	.29†	.29†	107.6	10.1
6. Extracurricular Activity Index	.03	.20	.38*	.02	.22	—	−.15	−.16	−.17	.17	17.8	17.01
7. Verbal Level of Aspiration	.18	.11	−.04	.07	.31*	−.15	—	.66†	.97*	.12	72.5	19.4
8. Arithmetic Level of Aspiration	.06	−.02	−.05	−.03	.19	−.16	.66*	—	.82	.04	58.9	8.4
9. Average Level of Aspiration	.16	.08	−.05	.04	.29†	−.17	.97*	.82*	—	.11	65.8	12.9
10. Total Teachers' Ratings of Students Level of Aspiration	.23†	.71*	.36*	.02	.29†	.17	.12	.04	.11	—	10.3	3.0

* Significant at the .01 level of confidence.
† Significant at the .05 level of confidence.
‡ Age measured to nearest month.

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OL scores and the teachers' ratings of their students' levels of aspiration is .25 for School A and .23 for School B, both significant at the .05 level of confidence.

OL score and students' self-ratings. Considerable difference is noted in the correlation of scores with students' self-ratings of aspirational level. In School A the correlation coefficient is .44 ($P = .01$), and in School B it is .04.

OL score and the experimental tests of level of aspiration. The relationships between OL scores and the laboratory tests of level of aspiration are not significant. The correlation between the verbal level of aspiration tests and OL scores is .05 in School A and .18 in School B. The correlation between the arithmetic level of aspiration test and OL scores is .17 in School A and .06 in School B.

Discussion. The OL scores are positively related to teachers' ratings of students' level of aspiration in both schools, whereas they are significantly related to students' self-ratings of aspirational level in School A but not in School B. It appears that there is considerable difference in objectivity of students' concepts of their level of aspiration in both of these schools. OL scores are not significantly related to laboratory tests of level of aspiration.

Score as Related to Academic Achievement, Intelligence, and Extracurricular Activity

OL score and IQ. The correlation between OL scores and IQ is .42 ($P = .01$) in School A, and .20 ($P > .05$) in School B.

OL score and academic achievement. Another significant relationship is that between OL scores and academic achievement. The coefficient of correlation between these two factors is .42 ($P = .01$) in School A and .30 ($P = .05$) in School B. When intelligence is held constant, the correlation becomes .24 and .22 respectively. It is found that the multiple correlation between academic achievement and OL scores and IQ is .66 in School A and .54 in School B.

OL score and Extracurricular Activity Index. The correlation between participation in extracurricular activities and OL scores is .26 ($P = .05$) in School A and .03 in School B.

Discussion. The above findings are in agreement with those of Wren (58), Bradley (8), and Stubbins (50), who, using different research techniques, found intelligence and academic achievement to be highly related to an individual's level of occupational aspiration. However, they are not in agreement with those of Strong who found that the correlation between OL scores and intelligence is .05. When intelligence is held constant, the correlation between OL scores and academic achievement is positive, but no longer significant. In the multiple correlation of academic achievement to the OL scores and intelligence, the correlation coefficient increases slightly. The multiple and partial correlations reveal that intelligence is the most important factor in academic achievement. The relationship between the OL scores and the Extracurricular Activity Index does not appear to be clearly significant or close.

Conclusions

The purpose of this study was to determine the degree of relationship which exists between the OL score of the Strong Vocational Interest Blank and various other presumed measures of level of aspiration, such as teachers' ratings of students' level of aspiration, students' self-ratings of level of aspiration, and two

laboratory tests of level of aspiration. Secondly, an attempt was made to ascertain whether any relationship exists between OL scores and scholastic and extracurricular achievement. The experimental group consisted of 132 white males who were in the junior and senior classes of two high schools about 30 miles from New York City.

The results of this study seem to warrant the following conclusions:

1. The OL score (Strong's Vocational Interest Blank) is positively but not clearly significantly related to teachers' ratings of students' level of aspiration.

2. No significant relationships exist between the OL scores and the several laboratory tests of level of aspiration. However, there is some degree of relationship between OL scores and the other measures of level of aspiration.

3. There is a significant relationship between OL scores and academic achievement, but when intelligence is held constant, the coefficient of correlation is positive but no longer significant. In a multiple correlation of academic achievement with intelligence and OL scores, the correlation coefficient increases slightly. It appears that the OL score is not useful as a predictive tool for academic achievement. However, the data reveal that an individual's OL score is related to his intelligence and academic achievement. How the individual appraises his abilities and achievement appears to determine to a great extent the level of his choice of occupational goal.

4. There is no clearly significant relationship between OL scores and the extent of student participation in extracurricular activities.

5. Although there are differences in the population, it has been found that OL scores are positively related to intelligence.

Level of aspiration is highly specific. One cannot infer from the data in Tables 3 and 4, not all of which have been discussed in this paper, the presence of a general trait "level of aspiration." The conduct of an individual is due to factors common to the situations represented in the test. Actions in a wide range of situations cannot be predicted from knowledge in one type of situation, since the varied situations are not sufficiently similar to elicit a common response from the individual.

The OL scale of Strong's Vocational Interest Blank is not significantly related to the other measures of level of aspiration, and is of little value as a predictive instrument of academic or extracurricular achievement when intelligence is held constant. The interpretation of the OL scale as a measure of level of aspiration is apparently not warranted. The OL score is so constructed that it should indicate the socioeconomic level of an individual's interests, but there is no evidence to suggest that it measures his level of aspiration or drive.

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Chapter IV

THE RELATIONSHIP OF CERTAIN SOCIAL FACTORS TO OCCUPATIONAL LEVEL AS MEASURED BY STRONG'S VOCATIONAL INTEREST BLANK*

Lawrence H. Stewart

This study is concerned with the relationships between certain social factors presumably operative during early childhood and adolescence and the individual's level of vocational interests as measured by the OL scale of the Strong Blank.

Hypothesis. Occupational level as measured by Strong's Vocational Interest Blank is, in part, a function of social background. Sons of skilled workmen whose social backgrounds vary from that to be expected on the basis of fathers' occupations tend to make scores on the OL key which vary from the mean of the skilled group.

Problem and Method

Subjects. The subjects for the study were 136 high-school juniors and seniors who were sons of skilled workmen, skill being classified according to the *Dictionary of Occupational Titles* (57). All of the subjects were selected from five schools within commuting distance of, but not within, New York City. An attempt was made to get a complete coverage of each school. The subjects were sons of white parents born in the United States. Their ages ranged from 15 to 21 years with a mean age of 16.7 years.

Sims (44) has found that socioeconomic status is a relative term and is significant only in the group within which the child lives. Comparisons are most reliable when made within the same or similar groups. With this is mind, Newark, N.J. was selected as a location likely to provide the desired number and variety of subjects. However, examination of data on the subjects obtained at the West Side High School in Newark showed that the proportion of Italian students was unduly large. In order to reduce the possibility of getting too many subjects of one national origin, other neighboring communities were selected as a source for the remaining subjects.

Sons of skilled workmen were selected for study, since the mean OL standard score of skilled workmen is approximately 50. This permitted the scores of the subjects to deviate in either direction from the mean score of the skilled group. If either the professional or unskilled occupational group had been chosen, the OL scores of the sons could have deviated in one direction only.

Satisfaction with the job depends, in part, on the level of the job in the manual or white-collar hierarchies (51). Skilled workers are more satisfied with their jobs than semiskilled workmen; professional workers more satisfied than clerical workers. Davidson and Anderson (18) have shown that clerical workers are the main reservoir for the higher white-collar occupations while the semiskilled and unskilled workers are the reservoirs for the skilled occupations. Choosing sons of skilled workmen, who have reached the top of the manual hierarchy, may have partially elimjnated the effects of parental dissatisfaction and the desire of the parents to move upward in the occupational world.

Colored students and sons of foreign-born parents were excluded from the sample, because it was not known what effects race or foreign cultures would have

* Part of an Ed.D. investigation conducted at Teachers College, Columbia University, under the direction of Dr. Donald E. Super, Dr. Nicholas Hobbs, and Dr. Herbert Zucker.

on the variables being investigated.

Instruments. The OL scale of the Strong Blank, a form of the Otis Test of Mental Ability, and a questionnaire designed to elicit information concerning the social background of the individual were used in the study. The first two instruments have been described elsewhere (26, 49, 53). The questionnaire consists of 49 items exclusive of identifying data (Appendix D). It can be divided into two parts: items concerning the subjects' family background, and those concerning the subjects' activities either in or outside the home.

Administering the instruments. The Strong Blank and the questionnaire were given to groups of from five to ten subjects. In order to motivate the subjects, they were informed that the Strong scores would be made available to them through their school counselor. After five minutes practice on the Strong, they were told to complete the blank outside of school, and attention was turned to the questionnaire, which was completed in the group. The use of small groups permitted the investigator to answer questions and to check each questionnaire for omissions and ambiguous answers. Either the Otis Quick-Scoring (Gamma) or Self-Administering (Higher) IQ's were taken from school records. The school administered the Otis Quick-Scoring Test to a few students for whom Otis IQ's were not available.

The use of two forms of the Otis tests raised the problem of comparability of IQ's. Information furnished by the publisher indicates that the Quick-Scoring averages about one raw score higher than the Self-Administering tests. Since one raw score is roughly equivalent to one IQ point, Self-Administering IQ's were converted to Quick-Scoring IQ's by the addition of one IQ point.

Statistical analysis. The analysis of variance was used as one variable was in the form of multiple categories and the other in continuous standard scores.

Analysis of the data indicated that OL scores were not related to school or grade or clearly related to age. Therefore all of the subjects were considered as a single sample.

Findings are summarized in Table 5, in which eight significant relationships are reported (three of which are family data and five personal), together with 19 variables for which no relationship was found.

Discussion

The findings indicate that the mother may have a greater influence on the development of vocational interests than has hitherto been assumed. Psychoanalytic theory stresses the tendency for the son to emulate the father, a fact which seems to be at variance with the above findings. However, Strecker (48) points out that sons tend to be emotionally attached to their mothers. Such a viewpoint provides a logical framework for these findings, which suggest the following theory.

The mother plays an important role in transmitting the development of cultural values and mores to the children, and therefore helps set the level of the son's vocational interests. Not only does the mother nourish the child physically, but she also provides a cultural atmosphere, highly saturated with her own interests and values, which is influential in determining those of the son. This foundation, established during childhood, controls the interpretation of future experiences and, to a great extent, the formation of interest patterns. The father may help determine the *vocational field*

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TABLE 5
SUMMARY OF FINDINGS

Related to OL Score	Not Related to OL Score
Significant at the .05 level:	*Family*
Family	1. Occupational status of:
1. Mothers' socioeconomic status as measured by:	Members of immediate family
Occupation of maternal grandfather	Paternal grandparents
Occupation of maternal grandmother	Most successful relative
2. Religion of the family	Person most admired
Subject	2. Educational level of relatives
3. Participation in high-school organizations	3. Ethnic origin
4. Type of summer work experience	4. Parents' birthplace
5. Occupation expected after completion of education	5. Financial status of friends of the family
Significant at the .01 level:	6. Type of dwelling
6. Vocational and educational plans after completion of high school	7. Feelings concerning the neighborhood
7. Intelligence	8. Parents' participation in organizations
	9. Supplementary income
	10. Possessions at home
	Subject
	11. Participation in out-of-school organizations
	12. Holding offices in any type of organization
	13. Source of spending money
	14. After-school work experience
	15. Travel
	16. Visits to museums
	17. Socioeconomic status of friends
	18. Long-range vocational aspirations
	19. Parental aspirations for the subject

of interest (problem discussed in Chapter I); the mother is seen as a determiner of the *socioeconomic level* of interest.

The other observed relationships, interpreted in light of this hypothesis, could be thought of as being reflections of this earlier training. Adolescents enter into extracurricular activities, and have vocational and educational aspirations, partly because of their earlier conditioning; they have developed interests which make these activities and aspirations compatible.

Very little evidence is available to support the above hypotheses, other than the findings of the present study, and these findings are by no means clear-cut. They do, however, point up the need for further research concerning the mother's role in the development of the level of the son's vocational interests.

Conclusions

The purpose of the study was to investigate the relationship between certain social factors, presumably operative during early childhood and adolescence, and occupational level as measured by Strong's Vocational Interest Blank.

A questionnaire designed to elicit social background information, the Strong Vocational Interest Blank, and a form of the Otis Tests of Mental Ability were administered to 136 high-school juniors and seniors who were sons of skilled workmen, classified according to the *Dictionary of Occupational Titles*. The subjects were sons of white parents born in the United States. All of the subjects were in schools surrounding metropolitan New York City.

When a large number of variables are investigated, a few seemingly significant

relationships may be expected on the basis of chance. However, eight significant relationships out of 57 variables are more than the expected number of chance relationships.

It seems difficult logically to account for the fact that some of the variables are related to OL scores while other seemingly very similar factors are not related. This suggests the possibility that some of the quantitative information elicited by the questionnaire may not get at important aspects of the problem.

The following tentative conclusions seem justified:

1. The OL scores of sons of skilled workmen are *not* related to discrepancies in the socioeconomic status of the immediate family as indicated by occupation of siblings and mother, educational level of the members of the family, possessions at home, supplementary income, activities engaged in by parents, geographic mobility of parents, ethnic origin, evidence of social mobility such as feelings toward neighborhood and socioeconomic status of friends, and type of dwelling.

2. The OL scores of sons of skilled workmen *are* related to the mothers' socioeconomic status as determined by the occupational level of both maternal grandparents. These relationships, however, are not clearly significant.

3. The OL scores of sons of skilled workmen are *not* related to the educational level of maternal grandparents, paternal grandparents, and most educated relative; nor to the occupational level of paternal grandparents, most successful relative, and person most admired.

4. The OL scores of sons of skilled workmen *are* related to the religion of the family, although the relationship is not clear-cut. Sons of mixed marriages score significantly higher than sons of Catholics. Sons of Protestants score higher than sons of Catholics, but the difference is not quite statistically significant.

5. The OL scores of sons of skilled workmen *are* related to activities such as type of summer work experience and belonging to school organizations. The relationships, however, are not clearly significant.

6. The OL scores of sons of skilled workmen are *not* related to factors in the subjects' environment such as membership in out-of-school organizations, source of spending money, after-school work experience, travel, visits to museums, and socioeconomic status of closest friends.

7. The OL scores of sons of skilled workmen *are* clearly related to the individuals' immediate vocational or educational plans. Those expecting to go to college score significantly higher than those who plan to get a job on leaving high school, go to a business school, or go to a technical institute.

8. The OL scores of sons of skilled workmen *are* related to the type of job expected after completion of education. The relationship, however, is not clearly significant.

9. The OL scores of sons of skilled workmen are *not* related to the subjects' long-range vocational aspirations nor to the vocational and educational aspirations which they think their parents have for them.

10. The OL scores of sons of skilled workmen *are* related to intelligence. The correlation is low but clearly significant.

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Chapter V

THE MEANING OF OCCUPATIONAL INTEREST LEVEL AS MEASURED BY STRONG'S BLANK

Donald E. Super

In launching the series of investigations reported in the preceding chapters we had in mind questions such as the following:

> Is having interests like those of professional men a sign of motivation to strive to rise to the higher socioeconomic levels?
>
> Are adolescents with interests like those of business executives inclined to show, in their school work and activities and in their educational and vocational plans, patterns of behavior which can be interpreted as indications of high aspirational level?
>
> Are men whose level of occupational interests is high likely to be dissatisfied with a low level of vocational attainment, while those whose occupational interest level is low tend to be satisfied with unemployment, drifting, and dependency?
>
> Is occupational interest level simply a measure of the extent to which an individual has developed interests which characterize one or another of the various socioeconomic levels?
>
> With what factors and experiences in and outside of the home are differences in occupational interest levels associated?

The answers to these questions were sought in a review of previous studies of the OL scale of Strong's Vocational Interest Blank (the results of which have been omitted from this monograph), and in three investigations conducted with high-school boys and adults, in which OL scores were related to educational achievement, extracurricular and out-of-school activities, laboratory tests of level of aspiration, ratings of aspirational level, educational and vocational plans, congruence of vocational aspiration and attainment (as shown by satisfaction with unemployment), intelligence, and social background and status. In the following pages an attempt is made to synthesize these findings and to draw some conclusions as to the meaning and use of the OL scale of Strong's Blank.

Occupational Interest Level and Indices of Drive

Educational achievement. When intelligence is held constant, there is no significant relationship between the OL scores of high-school students and their grades, as shown in studies by Ostrom (43) and by Handelsman (27). Although the latter investigator found a clearly significant and moderately high intercorrelation before intelligence was partialled out, this relationship shrank to insignificance once mental ability was controlled.

At the college level, earlier studies by Kendall (33) and by Ostrom (42) have reported findings which lead the present writer to conclude that the relationship between occupational interest level and achievement in college is very slight. It was only when Ostrom compared the honor-point ratios of High-OL and High-IQ students with those of five other possible combinations of OL scores and IQ's that clearly significant differences in college achievement were found. Working with graduate students of business, Strong (49) found no significant differences in occupational interest level between high and low achieving groups.

In the case of unemployed adults, Barnett has reported a low but possibly significant correlation ($P = .05$) between occupational interest level and amount of education, which can also be largely explained by the correlation of both of these with intelligence.

From the above data it seems necessary to conclude that there may be a very slight relationship between occupational interest level (as measured by Strong's Vocational Interest Blank) and educational achievement. This relationship is, however, not clear enough to justify concluding that occupational interest level is related to motivation to achieve. Neither is the relationship close enough to warrant using the scale as an educational counseling or selection instrument.

Extracurricular and out-of-school activities. Another possible way in which motivation to achieve or to lead might manifest itself is in the relatively free activities of school and community life. Handelsman found what might have been a significant but slight relationship between occupational interest level and membership and office-holding in school activities in one of the high schools, but not in the other. Stewart's group of high-school boys from homes of skilled fathers showed a relationship like that of Handelsman's first group when participation in in-school activities was analyzed, but none when occupational interest level was related to school office-holding, or to out-of-school activities, including part-time jobs. On the other hand, Stewart did find that the boys who engaged in professional types of occupations during the summer tended to have higher OL scores.

These results suggest that there is some tendency for persons with high occupational interest levels to seek outlets in school activities and to use their summer vacations for earning, orientation, or training, although they show no evidence of being inclined to hold school offices, to be active in organizations outside of school nor to work part time while in school (the last two are probably less rewarding psychologically and socially). This might be characterized as a middle-class pattern. In the case of Stewart's sons of skilled workers, it raises a question as to whether we have demonstrated a motivation to rise above the way of life of the paternal socioeconomic level, or simply the transmittal of a different way of life to the son by influences other than the father. As Stewart found a significant relationship between occupational interest level and the socioeconomic level of the mother's family among these sons of skilled workers, it seems probable that the mother has transmitted to the son values from a cultural level different from that of the father. Whether the interest in middle-class activities and the acceptance of middle-class values which result in participation in school activities and in getting summer jobs is the result of a passive acceptance of a way of life or an effect of unusual motivation is not made clear by the data.

We are probably justified in concluding that occupational interest level is slightly related to the use of school and summer work opportunities in ways which contribute to the attainment of status and to the preservation of other middle-class values. Taken alone, this relationship is, however, so slight as to provide little basis for using the OL scale of Strong's Blank in counseling or selection.

Ratings of drive. In a study reported by Ostrom (43), students in the last year of high school were rated for drive by their teachers, their fellow students, and by the investigator after an interview. These judgments were based on the behavior of the students in the classroom, in extracurricular activities, and in a variety of other life situations. Ostrom found that all of these ratings were cor-

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related with scores on the OL scale of Strong's Blank, and concluded that occupational interest level is a measure of motivation. He did not, however, allow for the fact that students from higher socioeconomic levels participate in school work and activities more than do those of lower socioeconomic levels, and that, as Hollingshead has shown (30), boys and girls from lower levels who want to participate often do not do so because they feel that they are discriminated against. Ostrom's results could therefore be spurious.

Our results tend to agree with Ostrom's, but show a much lower and much less clear-cut relationship. Handelsman, we have seen, found that teachers' ratings of pupil motivation had correlations of .23 and .25 with OL scores, significant at the .05 level, whereas in only one of his two groups were student self-ratings related to occupational interest level.

In view of Hollingshead's (30) findings concerning teachers' attitudes toward lower-class children, it is quite possible that the low positive relationship which seems to exist between teacher ratings of motivation and occupational interest level is the result of a tendency on the part of teachers to rate boys according to the extent of agreement between the boys' apparent values and their own middle-class values. If so, Ostrom's and Handelsman's findings on ratings (whether by teachers, peers, or the investigator) and OL may only indicate that the boys whose interests are most like those of the middle-class majority in high school win the most social approval. If so, then occupational interest level scores could be considered measures of status rather than of drive. In using them as measures of motivation or drive on the basis of these findings one would therefore need to make assumptions the validity of which is open to question.

Laboratory measures of aspiration level. Handelsman's study shows that there is no relationship between standard laboratory tests of aspiration level and occupational interest level. Indeed, his findings appear to demonstrate that Frank's conclusion that level of aspiration is a fairly stable characteristic of personality must not be applied too broadly, for there is no relationship between the two laboratory measures of aspiration level used by Handelsman and the other, more nearly lifelike, measures which he used. By contrast, these other (nonlaboratory) measures did in some instances yield some low but positive intercorrelations.

Educational and vocational plans. The nature of a student's plans for further education and subsequent vocation may be indices of level of aspiration which are more lifelike than those provided by the traditional laboratory experiments in aspiration level. Stewart has shown that occupational interest level is related to high-school seniors' plans for further education or work immediately after finishing high school, when paternal occupational level is held constant. Again, however, a positive finding must be qualified in view of the fact that Stewart found significant relationships between occupational level of maternal grandparents and OL scores: as sons of skilled workmen whose mothers come from superior socioeconomic backgrounds tend to have interests characteristic of higher occupational levels, perhaps they acquire also from their mothers a more positive valuation of post-high-school education and of white-collar jobs than is typical of boys whose mothers as well as fathers come from skilled or semiskilled backgrounds.

Operationally speaking, occupational interest level is a measure of similarity of interests to those of men at a given socio-economic level. If it is also an index of motivation to rise to higher social levels, other evidence must be found to that effect.

The picture is further complicated by the fact that Stewart found no relation between occupational interest level and long-range vocational plans. It may be that the long-range vocational plans of these high-school seniors are unrealistic; there is ample evidence to this effect for other groups in the literature (45), and disparities between aspirations and expectancy are greater at the lower socio-economic levels than at the higher. If this is so, these data cannot provide a criterion for the OL scale.

Vocational achievement. The first two investigations of the relationship between scores on the OL scale of Strong's Vocational Interest Blank were made by Strong himself (49). In a study of Forest Service employees, the higher job levels were characterized by significantly higher mean OL scores, which resulted from the relative absence of men with low occupational interest levels in the administrative groups. Furthermore, when a group of unemployed men were studied, 25 per cent were found to have occupational interests like those of unskilled and semi-skilled workers. These findings were viewed by Strong as suggesting that occupational interest level might be indicative of drive to achieve status.

Barnett also studied unemployed men. Although his subjects were tested during a boom period and Strong's in a depression, Barnett's chronically unemployed group made the same average OL score as Strong's; his nonchronic group appropriately scored about one-half sigma higher. Most important of all, strikingly high negative correlations between occupational interest level and satisfaction with being unemployed were found for both groups (−.73 and −.68), and these were not lowered when intelligence was held constant. Taken as they stand, these results appear to offer a clear-cut confirmation of the hypothesis that occupational interest level as measured by Strong's Blank is an index of drive: men who are satisfied with being unemployed tend to make low OL scores, while those who are dissatisfied with their lowly status tend to make high scores.

But if occupational interest level is indicative of drive, why have these normally intelligent, normally educated, and economically favored men (witness the Otis scores, educational levels attained, and claimed parental occupations) not been more successful? Why are the many high OL's who are dissatisfied with their status unemployed and dependent in a period of labor shortages? In some instances (or perhaps many) still other factors may be related to their being unemployed: physical handicaps were ruled out by the sampling methods, but personality maladjustments are an obvious possibility.

But Barnett reports some other findings which bear on this problem. Whereas parental occupation *was not* related to occupational interest level in his subjects, parental occupation *was* negatively related to being satisfied with unemployment. In other words, although there is no relation (in this group) between father's occupation and son's occupational interest level, both of these factors are significantly and negatively related to being satisfied with unemployment. *These findings suggest that the OL scale measures what it was constructed to meas-*

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ure: the socioeconomic level at which a person's interests would place him. Men who are unemployed are unable financially to satisfy the interests they have developed in childhood and adolescence; the higher the social scale placement of their interests the less able they are to satisfy these interests when unemployed and the more dissatisfied they are with their unemployed status. Similarly, men whose fathers were employed at relatively high socioeconomic levels find being unemployed more in conflict with their socially acquired values than do men whose fathers were from lower occupational levels and who therefore were more inclined to consider some unemployment inevitable. For these reasons occupational interest level is related to unemployment satisfaction in the same way as is parental occupational level.

If this is indeed the nature of the relationships, there is no need to postulate that motivation or drive is involved in occupational interest level. Occupational interest level may be *static* in nature, simply an indication of the status level of interests, or it may be *dynamic* in the sense of moving one to do something about finding appropriate outlets for his interests. While it is true that data such as Strong's follow-up studies of Stanford students (49) suggest that there is something dynamic in interests (Strong's studies reveal a tendency to enter occupations in which interest is high or, if a low-interest occupation is entered, to shift to fields of greater interest), the dynamics in this instance are those of *fields*, rather than of *levels*. And it is in level that we are interested in this context.

We must conclude, then, that it has not as yet been demonstrated that occupational interest level is a measure of motivation to achieve or to acquire status. It is, at least, a measure of similarity of interests to those of men at various socioeconomic levels (its method of construction should guarantee this). The Forest Service administrators studied by Strong may have been attracted to their higher-level jobs by the administrative nature of the work rather than by desire for status, and the forest rangers may have remained rangers not because they lacked ambition but because they liked a ranger's work more than management. True, the OL scale may yet be shown to measure drive, and we have not demonstrated that it does not do so. But we have shown that all available evidence concerning the OL scale can parsimoniously be interpreted in terms of *similarity of interest*. It is not unreasonable to expect a measure of similarity of interest to measure only similarity of interest. Neither is it surprising to find that *fields* of interest have a dynamic which may not be shared by *levels* of interest, when the instrument used in measuring them both was originally designed to assess the former.

In counseling and selection, then, it would appear justifiable to use the OL scale in order to find out whether a person has interests which will find appropriate outlets at a given occupational level, or in order to ascertain at which occupational level he is most likely to find appropriate outlets for his interests. But so far as we now know *level* of interests is likely to be less important to adjustment than is employment in a field of work which provides appropriate outlets for types of interests.

Occupational Interest Level and Personal Data

The data and conclusions so far reviewed have had to do with relations between occupational interest level and

various indices of drive, whether tested, rated, or manifested in school, leisure-time, or vocational activities. However, in order to understand the meaning of occupational interest level we must also know something of its origins, as deduced from its relationships with various types of personal and family data.

Intelligence. In the original studies of the OL scale, Strong (49) found no relation between scores on that scale and intelligence test scores. Our investigations contradict the original work, with correlations ranging from .20 to .42, both of the latter being for Handelsman's high-school juniors and seniors; Stewart's high-school seniors, all of them sons of skilled workmen, yielded a correlation of .25 (significant at the 1 per cent level), and Barnett's men an r of .28. It therefore seems legitimate to conclude that in a typical group there is a relationship between occupational interest level and intelligence. One must understand at least a little in order to be interested.

Social background. No previous investigations have dealt with this topic, on which Barnett gathered a little data and on which Stewart's study focused. Barnett related OL scores to paternal occupation in a socially, educationally, and intellectually heterogeneous group of unemployed men, finding no relationship in the chronic group (.14) and a very low but significant negative correlation in the nonchronic (−.24). These are surprising results, as one might have anticipated that the social level of the father would be a prime determinant of the social level of the son's vocational interests. However, the correlation between *field* of interests in father and son has been shown to be only .30 (6, 49).

On the other hand, Stewart did find a positive and significant relationship between the occupational interest level of his skilled workmen's sons and the occupational levels of both maternal grandparents. As paternal occupation was held constant in this study we may not conclude that the role of the mother is more important than that of the father, but the finding does fit in with the widely held idea that women are the carriers of culture. It suggests that when the mother's background is superior or inferior to that of the father, the interests and values which typify her background will to some extent be transmitted by her to the son.

Only one other item of family background was found to be related to occupational interest level: family religion. Sons of mixed Protestant-Catholic marriages tended, in Stewart's sample, to make higher OL scores than others, Protestants ranked next, and Catholics next (the difference between the last two groups was not statistically significant and there were too few Jews for comparisons). Perhaps willingness to marry across religious lines is the result of a social mobility which manifests itself in higher vocational *aspirations* in the children of such marriages, but it may also be that this freedom from tradition is associated with interests and values which affect the upbringing of the children and manifest themselves in the children's interests. Perhaps only the more highly educated are likely to feel free to marry across religious lines.

Other family data analyzed by Stewart included the occupations of mother and siblings, the educational attainments of other members of the family, parental community activities, parental social mobility as indicated by attitudes toward the neighborhood in which they live and by the social levels of people associated with, and similar factors which might be expected to provide models of attain-

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ment and aspiration for maturing children. None of these, however, was related to occupational interest level.

These findings are not easily synthesized or rationalized. If we explain away the lack of significance of the mother's occupation on the grounds that women's occupations mean little in terms of status because of limitations on their employment (hardly true when one examines the social backgrounds of teachers, nurses, stenographers, sales clerks, factory operatives, and domestics, as shown by Hollingshead), we must then explain the statistically significant relationship with the maternal grandmother's occupation. And why is occupation more important than education? It might be because the former clearly provides a status label, whereas the latter does not—but then the occupations of the most successful relative and of siblings should be important to occupational interest level, which they are not.

The most striking and clear-cut finding concerning family background and occupational interest level is the lack of relationship between the two. Although we are given a suggestion that perhaps the social level of the mother plays a part in determining the level of the son's occupational interests, this is not a conclusion of which we can be sure in view of seemingly contradictory findings. What, then, are the origins of interest, what the determinants of the occupational level to which a person's interests correspond?

Perhaps *field* or type of interest is the important factor, the *level* factor being important only in that it reflects the level at which the individual's type of interest can find outlets. Clerks, skilled workmen, and semiskilled laborers do not manage enterprises, hence a person interested in managerial activities and able to do so finds outlets in administrative work; *ipso facto,* he has interests like those of men at high occupational levels. Engineers do not usually work directly with tools and materials, therefore a man with technical interests who likes to work directly with materials has, by virtue of the way in which work is now organized, interests like those of skilled workmen. Empirical support for this hypothesis is reported in Table 6.

In Table 6 data from Strong (49) have been reworked to show the mean OL scores of the various types of work. Groups 1 through 8 represent *fields* of work and to a lesser extent, perhaps, levels, while Groups 9 and 10 are a more nearly equal mixture of field and level. As the mean OL scores show, persons who have literary interests are *ipso facto* likely to have a high occupational interest level. Similarly, those who are interested in skilled work with tools are *ipso facto* likely to be placed at a low occupational level.

If this is correct, it may be necessary to seek the origins of occupational interest levels in the origins of types or fields of interests rather than in status or prestige drives. The origins of types of interests have been dealt with at length elsewhere (53, Ch. 16).

General Conclusions

In conclusion, it has been demonstrated that the Occupational (Interest) Level scale of Strong's Vocational Interest Blank is not related to family background, although the socioeconomic level of the mother's family and the freedom from binding traditions represented by willingness to marry across religious lines may have some bearing on occupational interest level. Occupational interest level

TABLE 6

OCCUPATIONAL FIELD AND OCCUPATIONAL LEVEL
(Data reworked from Strong (49), Tables 50, 53, and 87)

Field or Occupational Family	*N*	Occupational Level		*r*, Field × Level[1]
		M	*SD*	
1. President, Mfg. Concern	169	63.4	7.2	.63
2. Prof.: Literary-Legal	628	63.2	6.7	.53*
3. Biological Sci.	764	60.0	7.1	−.13*
4. Physical Sci.	1083	60.9	6.7	−.22*
5. Social Welfare	882	58.9	7.2	−.17*
6. Business Contact	786	62.0	7.5	.43*
7. Business Detail	1128	57.7	7.4	−.14*
8. Skilled	—	48.3	8.0	—
9. Semiskilled	—	45.9	8.6	—
10. Unskilled	—	44.4	8.7	—

* Pearsonian *r*'s for each *occupation* in the family in question averaged by *z* transformation to yield an average *r* for the occupations in each family.

[1] This is the correlation between scores on the occupational scale (representing field of interest) and scores on the OL scale. The populations in each case include a wide range of occupational field scores, skewed toward the upper end of the range.

is not simply a reflection of the father's occupational level. It seems most likely that occupational interest level is a function of the occupational levels at which various fields or types of interests can manifest themselves, and hence indirectly of ability, aptitudes, personality, and social evaluation.

Occupational interest level is not closely or clearly related to educational achievement. It is slightly related to extent of participation of extracurricular activities and summer employment on the part of high-school students, although not to school office-holding; these facts suggest that OL scores reflect middle-class values and interests. Occupational interest level is somewhat related to ratings of drive made by teachers, peers, and observers, but this may simply be a manifestation of the way in which middle-class people tend to approve of those whose values most resemble their own. It is not related to laboratory measures of level of aspiration. It is related to immediate post-school plans of high-school students, but this may reflect the inherent relation between field of interest and level, more than the effect of occupational level aspirations upon choice of field. Although the method of construction of the OL scale results in a relationship between occupational interest level scores and occupational placement on the socioeconomic ladder, there is no evidence which would justify concluding that the OL scale, is a measure of drive to advance occupationally: it is, however, clearly at least a measure of similarity of interests to those of men at various points of the socioeconomic scale. *The evidence now available warrants interpreting the occupational level score as a measure of status of interests:* the OL score can indicate the socioeconomic level at which a person should be able to find outlets for his interests. *The evidence does not warrant interpreting the OL score as a measure of drive:* it has not been demonstrated that the OL score can or cannot indicate how much a person will exert himself to rise on the occupational ladder or to succeed in his field of activity.

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APPENDIX A

UNEMPLOYMENT SATISFACTION SCALE

GORDON J. BARNETT (after Robert Hoppock)

A. Choose the one of the following statements below that you think best tells your feelings about being unemployed. MARK IT WITH AN X.

_____ I hate it.
_____ I dislike it.
_____ On the whole I don't like it.
_____ I am indifferent to it.
_____ On the whole I like it.
_____ I like it a good deal.
_____ I like it very much.
_____ I am enthusiastic about it.
_____ I love it.

B. Mark an X in front of the statement below that best tells how you think you compare with other unemployed people.

_____ No one likes being unemployed better than I do.
_____ I like being unemployed much better than most other unemployed people.
_____ I do not know how I compare with other people.
_____ I dislike being unemployed more than most unemployed people.
_____ I dislike being unemployed *much* more than most unemployed people.
_____ No one dislikes being unemployed more than I do.

C. Mark an X in front of the statement below that tells HOW MUCH OF THE TIME you feel SATISFIED with being unemployed.

_____ All of the time.
_____ Most of the time.
_____ A good deal of the time.
_____ About half of the time.
_____ Occasionally.
_____ Seldom.
_____ Never.

D. Mark an X in front of the statement below which best tells how you feel about changing your unemployed condition.

_____ I would give anything to stop being unemployed.
_____ I would take a job if I could find anything to do.
_____ I would take a job if it bettered my condition.
_____ I would not want to stop being unemployed altogether.
_____ I cannot think of any job for which I would stop being unemployed.
_____ I would not give up being unemployed for any job.

APPENDIX B

STUDENT'S SELF RATING

IRVING HANDELSMAN

Student's Name ..... Date .....

Please check the sentence which best describes you.

( ) I believe that I set high goals for myself, and work hard to attain them.
( ) I believe that I set high goals for myself, but do not do much about them.
( ) I believe that I set average goals for myself, and work hard to attain them.
( ) I believe that I set average goals for myself, but do not do much about them.
( ) I set no goals for myself.

APPENDIX C

RATING OF LEVEL OF ASPIRATION

IRVING HANDELSMAN

Student's Name ..... Date .....

Please check the sentence which most describes this student:

( ) He sets high goals for himself, which he works hard to attain.
( ) He sets high goals for himself, which he does not work hard to attain.
( ) He sets average goals for himself, which he works hard to attain.
( ) He sets average goals for himself, which he does not work hard to attain.
( ) He sets no goals for himself.

.....
Teacher's Name

APPENDIX D

BIOGRAPHICAL QUESTIONNAIRE

LAWRENCE H. STEWART

Name ..... Age .....

School ..... Grade .....

1. How many older brothers do you have? ..... Younger? .....

2. How many older sisters do you have? ..... Younger? .....

3. Check any of the following statements that apply to you:
( ) I live with my parents.
( ) My parents are divorced and I live with one of them.
( ) My father is dead.
( ) My mother is dead.
( ) I live with foster parents (or guardian, grandparent, etc.); (fill in date) since 19.....

4. Father's (or foster father's stepfather's) job (for example: baker or carpenter): .....

.....

Place of work (for example: flour mill or machine shop): .....

.....

Just what does he do? .....

.....

5. Mother's job (for example: dressmaker or housewife): .....

Place of work (if she works away from home): .....

Just what does she do? .....

.....

6. Most successful older brother's job: .....

Place of work: .....

Just what does he do? .....

.....

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7. Most successful older sister's job: .....

Place of work: .....

Just what does she do? .....

.....

8. Father's father's job: .....

Place of work: .....

Just what does or did he do? .....

.....

9. Father's mother's job: .....

Place of work: .....

Just what does or did she do? .....

.....

10. Mother's father's job: .....

Place of work: .....

Just what does or did she do? .....

.....

11. Mother's mother's job: .....

Place of work: .....

Just what does or did she do? .....

.....

12. Most successful relative's job: .....

Who is he or she (for example: cousin, uncle)? .....

Place of work: .....

Just what does he or she do? .....

.....

13. Who is the person, living or dead, that you most admire (for example: aunt, local policeman, or John Paul Jones, naval hero)? .....

Just what does or did he do? .....

What are or were his major interests or outstanding characteristics? .....

.....

14. Your parents have usually considered that they belong to the following religious groups (check one in each column):

Father	Mother	
( )	( )	Protestant
( )	( )	Roman Catholic
( )	( )	Jewish
( )	( )	Other (name) .....
( )	( )	None

15. Your parents and their parents are of (check one in each column):

Father	Mother	
( )	( )	Old American stock (your parents and grandparents born in this country).
( )	( )	Northern European stock (English, Scotch, Irish, Scandinavian, German, etc.).
( )	( )	Eastern European stock (Russian, Polish, Rumanian, Servian, Greek, Latvian, etc.).
( )	( )	Stock not indicated in the above groups.

16. Your parents were born in (check one in each column):

Father	Mother	
( )	( )	the South.
( )	( )	the West.
( )	( )	the Northeast.
( )	( )	the Midwest.

17. Your family's friends are (check one):

( ) less well off financially than you are.
( ) better off financially than you are.
( ) about the same as you are.

18. How far do you believe each of the following people went in school (place checks in the appropriate columns)?

	Grade School	Entered H.S.	Finished H.S.	Entered College	Finished College	Still in School	Don't Know
Father							
Mother							
Father's mother							
Father's father							
Mother's mother							
Mother's father							
Most educated brother							
Most educated sister							
Most educated relative (not mentioned above)							

Who is he (for example: uncle, cousin? .....

19. Your parents are active in (check one in each column):

Father	Mother	
( )	( )	no clubs or organizations.
( )	( )	one or two groups, generally just as a member.
( )	( )	a number of organizations, just as a member.
( )	( )	one or more organizations, often as an officer or leader.

List the principal organizations for:

your father .....

your mother .....

20. Do your parents go to concerts (check one)?

( ) Never
( ) Seldom
( ) Frequently

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21. Your family lives in a (check one):
( ) private, one-family house which they own.
( ) private, one-family house which they rent.
( ) two- or three-unit house or apartment which they rent.
( ) two- or three-unit house or apartment which they own.

22. Your family feels that you (check one):
( ) should live in a better neighborhood.
( ) should live in a less expensive neighborhood.
( ) are well located where you are at present and should continue the arrangement.

23. Approximately how many books does your family have (count about 25 books for every three feet of shelf)? ..... How many children's books? ..... How many adults' books? .....

24. Does your family subscribe to any magazines? Yes _____ No _____ If yes, list the magazines.

.....

25. Does your family own any automobiles? Yes _____ No _____ If you own more than one automobile give the following information for each of them.

Year ..... Make ..... Bought new? Yes _____ No _____

Year ..... Make ..... Bought new? Yes _____ No _____

26. Do you have a telephone at home? Yes _____ No _____ If so, do you have a party line? Yes _____ No _____ Private line? Yes _____ No _____

27. Do you have a typewriter at home? Yes _____ No _____

28. Do you have a radio at home? Yes _____ No _____

29. Do you have a television set at home? Yes _____ No _____

30. Do you have a musical instrument at home? Yes _____ No _____ If yes, list the instrument or instruments. .....

31. Do your parents have an income other than that from their usual job (for example: rent from another house, interest on investments, etc.)? Yes _____ No _____

32. In school you belong to (check one):
( ) no organizations.
( ) one or two organizations.
( ) more than two organizations.

33. If you indicated that you belonged to any organizations list them below.

.....

34. In school you hold (check one):
( ) no office in any of the above organizations.
( ) an office in one or two of these organizations.
( ) an office in more than two of these organizations.

35. Outside of school you belong to (check one):
( ) no organizations.
( ) one or two organizations.
( ) more than two organizations.

36. If you indicated you belonged to any organizations list them below.

.....

37. Outside of school you hold (check one):
( ) no office in any of the above organizations.
( ) one or two offices in the above organizations.
( ) more than two offices in these organizations.

38. Your closest friends are largely children of (check one):
( ) skilled workers and foremen (machinists, carpenters, etc.).
( ) proprietors and officials (managers, contractors, etc.).
( ) unskilled workers (janitors, street cleaners, etc.).
( ) semiskilled workers (filling station operators, lathe hands, etc.).
( ) professional men and women (lawyers, doctors, teachers, etc.).
( ) clerks and salesmen (bookkeepers, cashiers, mail clerks, etc.).

39. Check one of the following:
( ) I have an allowance.
( ) My family gives me what I need when I ask them for it.
( ) I have no allowance.
( ) I earn my own spending money for most of the smaller things I want.
( ) I earn all my spending money.

40. Do you usually work after school? Yes _____ No _____ If so, what was your last job? .....

.....

For whom did you work (for example: grocer, baker, etc.)? .....

41. Do you usually work during the summer vacation? Yes _____ No _____

If yes, what was your last job? .....

For whom did you work (for example: grocer, baker, etc.)? .....

42. Have you ever traveled considerable distances from home? Yes _____ No _____

If the answer is yes, list your travels. .....

.....

43. Do you visit museums (check one)?
( ) Never
( ) Seldom
( ) Frequently

44. What do you plan to do after you finish high school (check one)?
( ) Get a job.
( ) Go to a business school.
( ) Go to a college or professional school.
( ) Go to a technical institute.

45. What do you think your parents would like you to do when you finish high school (check one)?
( ) Get a job.
( ) Go to a business school.
( ) Go to a college or professional school.
( ) Go to a technical institute.

46. What kind of a job do you expect to get when you finish your education? .....

47. What kind of a job do you think you are likely to have ten years from now? .....

48. If you could have any job you wanted, as an adult, what would you like to do? .....

.....

49. What kind of a job do you think your parents would like you to have? .....

.....

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